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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/820,059 | 04/08/2004 | Toshiro Matsuda | 023971-0406 | 6922 |
| 22428 | 7590 | 08/27/2007 | EXAMINER | |
| FOLEY AND LARDNER LLP | | | ZANELLI, MICHAEL J | |
| SUITE 500 | | | ART UNIT | |
| 3000 K STREET NW | | | PAPER NUMBER | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/820,059

Applicant(s)

MATSUDA ET AL.

Examiner

Michael J. Zanelli

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-13 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-6,13 and 16-20 is/are allowed.
- 6) ☒ Claim(s) 7,8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is responsive to the amendment filed 6/22/07. Claims 1, 2, 4-13 and 16-20 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 7, 8 and 11 stand rejected under 35 U.S.C. 102(b) as being anticipated by JP8-133086.

A. As per claims 7, 8 and 11, as can best be determined JP8-133086 discloses a drive control apparatus as shown in the Figure comprising at least one pair of parallel road wheels driven independently by electric motors (6,7) connected to a power supply (5) in a serial circuit configuration (see Abs). The series connection may be changed to a parallel connection upon manipulating a control device. Manipulation of a control device also enables control of the series connected motors during a turning operation (Abs; [0011-0012]).

4. Claims 7 and 11 stand rejected under 35 U.S.C. 102(b) as being anticipated by Ward (4,042,055).

A. As per claims 7 and 11, Ward discloses an automotive vehicle (Figs. 1,2) having a pair of parallel road wheels (10), each having an independent driving motor (30) associated therewith, and a power supply (36) connected in a serial circuit with the electric motors (Fig. 7). A switching circuit is provided for connecting the motors in parallel or series upon manipulation of a control device (Fig. 7; col. 4, line 36 to col. 7, line 23).

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5. Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over JP8-133086 or Ward in view of Posma et al. (2003/0090225).

A. As per claim 10, JP8-133086 and Ward are applied as above. The claimed invention differs in that the parallel circuit configuration is selected upon detecting acceleration slip. However, at the time of applicant's invention it was known in the art to operate the motors in a parallel configuration to function like a slip differential when at least one of the wheels experience slip (see as exemplary Posma: Abs). One of ordinary skill in the art would have found it obvious to apply the teachings of Posma to the systems of JP8-133086 and Ward because it would have increased traction during slippery conditions.

6. Claims 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over JP8-133086 or Ward in view of JP2000-318473.

A. As per claim 12, JP8-133086 and Ward each disclose the drive controlling apparatus as detailed above whereby electric motors are used to drive a pair of wheels. One of ordinary skill in the art would have found it obvious that the disclosed drive control would work equally with four motor driven wheels or a combination of engine driven wheels and motor driven wheels. For example, JP2000-318473 discloses that it was known in the vehicle arts to use an engine to power a front set of wheels whereas electric motors are used to power a rear set of wheels. Such a combination improves fuel economy, reduces air pollution and/or provides for increased traction under slippery conditions.

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7. Claims 1, 2, 4-6, 13 and 16-20 are allowed. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. **REMARKS**

A. With regards to claim 7, the examiner disagrees with applicant's argument that neither JP8-133086 or Ward disclose the circuit switching control which enables switching between series and parallel motor operation. JP8-133086 discloses circuitry for switching between series and parallel operation (Fig. 3) upon manipulation of the handle 11 (Fig. 1) [0007, 0011-0012]. Ward discloses circuitry for switching between series and parallel operation (Fig. 7) upon manipulation of the pedal 47 (Fig. 2) (col. 4, line 36 to col. 7, line 23).

B. With regards to claims 8 and 10-12, applicant does not separately argue the patentability of these claims but rather relies on their dependency from claim 7. Thus, these claims stand rejected for the reasons set forth in the first Office action.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Zanelli whose telephone number is (571) 272-6969.

The examiner can normally be reached on Monday-Thursday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J. Zanelli/
Primary Examiner
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